Claims

1. Device for reflecting electromagnetic waves, particularly light and heat radiation to a regulable extent, wherein between two protective plates (3) substantially transparent for electromagnetic waves the device (1) comprises a sheet-like, flexible reflecting element (2) of similar width and of larger length as compared to the protective plates (3) for transmitting the electromagnetic waves to different extents and/or in different ways, the device (1) further comprises a driving means (4) for spanning the reflecting element (2) along the longitudinal directions of the protective plates (3) and moving it in the same direction **characterized in that** the protective plates (3) are connected to each other so as to enclose an airtight space and the reflecting element (2) is arranged between the protective plates (3) in the airtight space.

2. The device according to claim 1 **characterized in that** each of the two ends of the reflecting element (2) are fastened to one of two motor (7) driven rollers (5), a part of the reflecting element (2) is rolled at least onto one of the rollers (5), whereas the part not rolled is spanned between the rollers (5).

3. The device according to claim 2 **characterized in that** the two rollers (5) are arranged at an edge of the device (1), and at the opposite edge of the device (1) a third roller (5) is arranged for turning over the reflecting element (2).

4. The device according to claim 2 **characterized in that** the two rollers (5) are arranged at opposite edges of the device (1).

5. The device according to claim 4 **characterized in that** between the protective plates (3) a further, second reflecting element (2) is arranged, the two ends thereof are fastened to two further rollers (5) driven by motors (7) and arranged at the two opposite edges of the device (1), a part of the second reflecting element (2) is rolled at least onto one of the further rollers (5), whereas the part not rolled is spanned between the further rollers (5).

6. The device according to any of claims 2–5 **characterized in that** the motors (7) are tubular motors (7) placed inside the rollers (5).

7. The device according to any of claims 2–5 **characterized in that** the motor (7) or motors (7) are arranged outside the airtight space, and they drive the rollers (5) through an airtight bearing support (21).

8. The device according to any of claims 2–7 **characterized in that** the reflecting element (2) comprises a coating on its surface.

9. The device according to claim 8 **characterized in that** the coating consists of a metal layer of varying density.

10. The device according to claim 9 **characterized in that** on the reflecting element (2) two or more parts (10, 11, 12, 16, 18) selected from the group below are arranged lengthwise: part (10, 16) without coating, part (12) with metallization varying continuously from near 0% to near 100% reflection, part (11, 18) with metallization of near 100% reflection, part provided with pattern (19), part provided with cut-out (13, 17).

11. The device according to any of claims 1–10 **characterized in that** a part reflecting/transmitting electromagnetic waves depending on the frequencies thereof is arranged on the reflecting element (2).

12. The device according to any of claims 1–11 **characterized in that** at the edges around the protective plates (3) a light trap (22) preventing the transmission of light is arranged.

13. The device according to claim 12 **characterized in that** the light trap (22) is a paint layer or a profile around the protective plates (3) at the edges thereof being light-absorbing at least on the side facing the reflecting element (2).

14. The device according to any of claims 1–13 **characterized in that** between the protective plates (3), on one or both sides of the reflecting element (2) threads (23) or a net arranged substantially parallel to the reflecting element (2) are spanned for preventing the contact of the reflecting element (2) and the protective plates (3).

15. The device according to any of claims 2–14 **characterized in that** on one of the sides of the device (1) an external light sensor (25) and an external temperature sensor

(26), whereas at the other side thereof an internal light sensor (27) and an internal temperature sensor (28) are arranged, these and the conductors providing the motor (7) or motors (7) with electric energy are connected to a control unit (24) optionally containing a microcontroller.

16. The device according to any of claims 2–15 **characterized in that** the electric energy needed for the control unit (24) and the motor (7) or motors (7) is obtained from solar cells (33) and stored in a battery (34) and the solar cells (33) are arranged on the outer protective plate (3).

17. The device according to any of claims 1–16 **characterized in that** the reflecting element (2) comprises a plastic film, the protective plates (3) are glass plates (3), and the glass plates (3) are connected together airtight by means of metal or plastic spacers (9) and elastic glue.

18. Method for the metallization of a film with a density varying with the longitudinal position on the film according to a given function, comprising the step of turning the film (29) to be metallized over a cooled roller (30), below which roller (30) a metal vapour source (31) is arranged **characterized in that** the method comprises the step of moving of a covering plate (32) between the metal vapour source (31) and the roller (30) according to a time function corresponding to the velocity of the film (29) and the given function of the density varying longitudinally for modulating the intensity of the metal particle beam emitted by the metal vapour source (31) to be deposited on the surface of the film (29).

19. The method according to claim 18 **characterized in that** a covering plate (32) with a comb-shaped form at the periphery thereof is moved.

20. The method according to claims 18 or 19 **characterized in that** two or more covering plates (32) are moved.